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## What Is Claimed Is:

A method for sterilizing a biological material that is sensitive to ionizing radiation, said method comprising:

- 38 -

- 5 No. (i) reducing the residual solvent content of a biological material to a level effective to protect said biological material from said ionizing radiation, and
- (ii) irradiating said biological material with a with a suitable ionizing radiation at an effective rate for a time 10/0 effective to sterilize said biological material.
  - 2. The method according to claim 1, wherein said solvent is water.
  - 3. The method according to claim 1, wherein said solvent is an organic solvent.
  - The method according to claim 1, wherein said biological material is blood or a component of blood.
    - 5. The method according to claim 1, wherein said biological material is a proteinaceous material.
  - 6. The method according to claim 5, wherein 20 said proteinaceous material is a component of blood.
    - 7. The method according to claim 1, wherein said biological material is a clotting factor.
  - 8. The method according to claim 7, wherein said clotting factor is selected from the group consisting of:
    25 Factor II, Factor V, Factor VII, Factor VIII, Factor IX, Factor X, Factor XIII, Factor XIIII, Von Willebrand's Factor and Fibrinogen.
    - 9. The method according to claim 1, wherein said biological material is selected from the group consisting

5

one or more immunoglobulins.

- 39 -

of: albumin, immunoglobulin A, immunoglobulin G and mixtures of

- The method according to claim 1, wherein said biological material is mammalian tissue or a component of mammalian tissue.
  - The method according to claim/1, wherein 11. said biological material is a recombinantly-produced biological material.
- 12. The method according to claim 1, wherein said biological material is a transgenic biological material. 10
  - The method according to claim 1, wherein 13. said biological material is a food or a botanical product.
  - The method according to claim 1, wherein 14. said ionizing radiation is gamma radiation.
- The method according to claim 1, wherein 15 15. said biological material is a carbohydrate or polysaccharide.
  - The method according to claim 1, wherein 16. said biological material is selected from the group consisting of chitin, chitosan, NOCC-chitosan and derivatives thereof.
- The method according to claim 1, wherein 20 17. said biological material is a product of cellular metabolism.
  - The method according to claim 1, wherein 18. said effective rate is not more than about 3.0 kGy/hour.
- The method according to claim 1, wherein 19 . said effective rate is more than about 3.0 kGy/hour. 25
  - The method according to claim 1, wherein 20. said effective rate is not more than about 6.0 kGy/hour.

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21. The method according to claim 1, wherein said effective rate is not more than about 18.0 kGy/hour.

- 40 -

- The method according to claim 1, wherein said effective rate is not more than about 30.0 kGy/hour.
- The method according to claim 1, wherein 23. 5 . said biological material is maintained in a low/oxygen atmosphere.
  - The method according to claim 23, wherein 24. said biological material is maintained in an argon atmosphere.
- 10 25. The method according to any one of claims 1-24, wherein said residual solvent content is reduced by lyophilization.
  - 26. The method according to claim 25, wherein said residual solvent content is less/than about 2.0%.
- 27. The method according to claim 25, wherein 15 said residual solvent content is less than about 1.0%.
  - 28. The method according to claim 25, wherein said residual solvent content is less than about 0.5%.
- 29. The method/according to any one of claims 20 1-24 and 26-28, wherein at least one sensitizer is added to said biological material prior to step (ii).
  - A method for sterilizing a biological 30. material that is sensitive to ionizing radiation, said method comprising:
- adding to a biological material at least 25 one stabilizer in an amount effective to protect said biological material from said ionizing radiation; and

15

- (ii) irradiating said biological material with a suitable ionizing radiation at an effective rate for a time effective to sterilize said biological material.
- 31. The method according to claim 30, wherein 5 said at least one stabilizer is an antioxidant.
  - 32. The method according to claim 30, wherein said at least one stabilizer is a free radical scavenger.
- 33. The method according to claim 30, wherein said at least one stabilizer is selected from the group consisting of: ascorbic acid or a salt or ester thereof, glutathione, tocopherol, 6-hydroxy-2,5,7,8-tetramethylchroman-2-carboxylic acid, rutin and other flavanoids.
  - 34. A method for sterifizing a biological material that is sensitive to ionizing radiation, said method comprising:
  - (i) reducing the residual moisture content of a biological material to a level effective to protect said biological material from said ignizing radiation;
- (ii) adding to said biological material at least

  20 one stabilizer in an amount effective to protect said

  biological material from said ionizing radiation; and
  - (iii) irradiating said biological material with a suitable ionizing radiation at an effective rate for a time effective to sterilize said biological material.
- 25 35. A/method for sterilizing a biological material that is sensitive to ionizing radiation, said method comprising:
- (i) / adding to a biological material at least one stabilizer in an amount effective to protect said
   30 biological material from said ionizing radiation;

(ii)reducing the residual moisture content of said biological material to a level effective to protect said biological material from said ionizing radiation; and

irradiating said biological material with a 5 suitable ionizing radiation at an effective rate for a time effective to sterilize said biological/material.